May 29, 1970

Dr. Oliver E. Nelson, Jr.
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Madison, Wisconsin 53706

Dear Oliver:

The ear you sent to me several days ago is being returned to you air mail, first class. I appreciated the opportunity to view this ear. It also shows restricted distributions of kernels having only white starch in them, although less rigidly than on the previously viewed ear. I strongly suspect, nevertheless, that the restriction is real. It appears to be another example of restrictions of kernel phenotype distributions to special parts of an ear. As I mentioned to you on the phone, I have noted three instances of restriction in my materials. One of these instances is illustrated (Figure 6) and mentioned in my 1968 paper in Supplement 1 of Developmental Biology. A reprint of this paper was sent to you. I hunted through my stocks for a second case to show you. I could find ears from only one plant. Ears from all other plants had been shelled. This plant, 8087B, produced four fertile ears, two on the main stalk and one each on two tillers. Two views of each of these four ears appear in the enclosed Polaroid photographs. The white kernels received a deficient chromosome 9 from the ear parent and the dark kernels received the homologous normal chromosome 9.

Plant 8087B had one normal chromosome 9 with the markers C Sh bz wx and a deficient chromosome 9 lacking all of the distal part of the short arm including the C locus but not the Sh locus. This deficient chromosome carried the markers Sh, Bz and wx-m8. An active Spm was present in plant 8087B. The pollen parent in each cross was homozygous for c, sh, Bz, and wx and it had no active Spm. Pollinations of all four ears were made on August 12 (8/12, upper right corner on each tag). Several colored kernels on the ear of tiller-2 appear to have colorless sectors. These are bronze sectors produced by somatic loss of Bz delivered by the pollen parent. Within the colorless class, a few kernels with a Wx phenotype may be noted as well as sectors exhibiting the Wx phenotype in other kernels.

From the photographs it is evident that restriction of phenotype distributions has occurred, even though the restrictions are not completely rigid. With this deficiency, I have noted the exhibited restrictions many times.

I hope by now that your campus is a bit more quiet. A long talk on the phone yesterday with Harry Stinson at Cornell told me of the situation there. Morale among many of the professors is bad and is getting worse. I fear we are heading towards the Latin American university system. If so, it is the end of creative activities at such institutions. My concern is personal as well as general. I dont know where to go.

Many thanks for sending me the ears and the kernels. I enjoyed looking at them.

Sincerely,

Barbara

Barbara McClintock